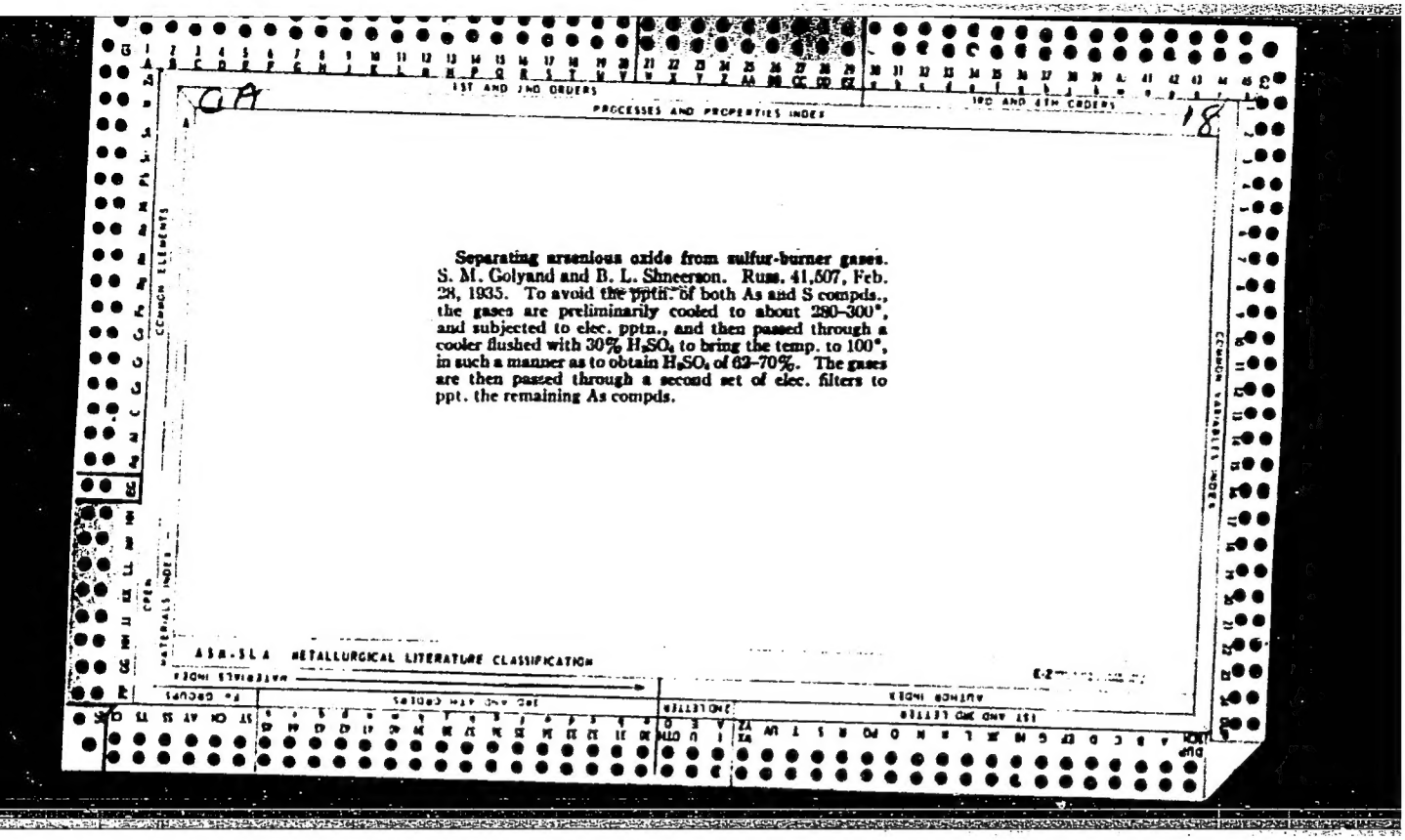
[illegible], N.M.; STRUKOV, I.T.; TEBYAKINA, A.Ye.; CHAYKOVSKAYA, S.N.; SHNEYERSON, A.N.; DUBOVA, V.G.

Marcillin and its microbiological properties. Antibiotiki 10 no.1:3-9 Ja '65. (MIRA 18:4)

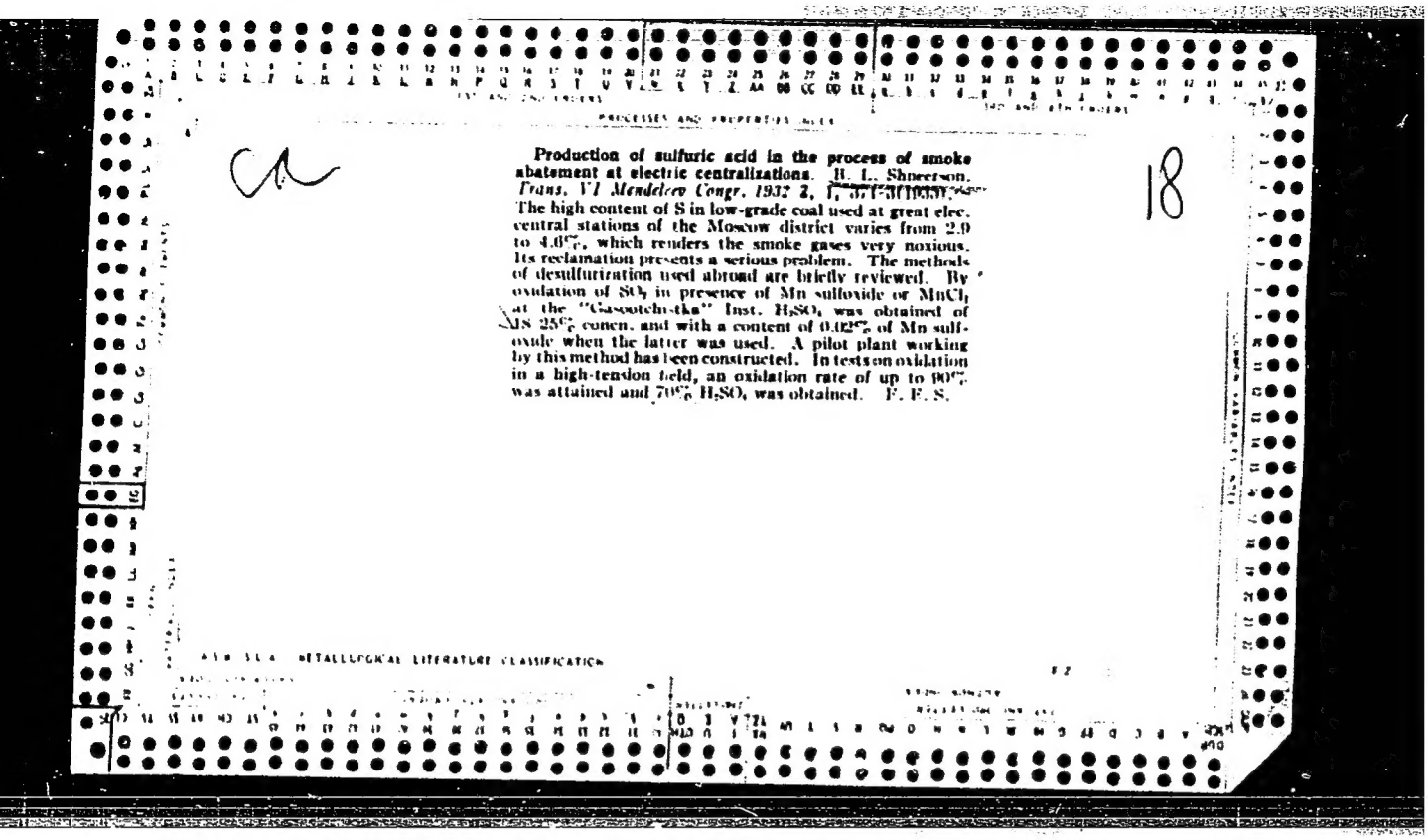
1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

Shverzon, E. L.

Shverzon, E. L. "Our Successes and Problems: Geophysical Methods of Exploration." In the book: Informatsionnyi Sbornik N.K.R.I., Moscow-Leningrad, 1933, pp. 45-50.

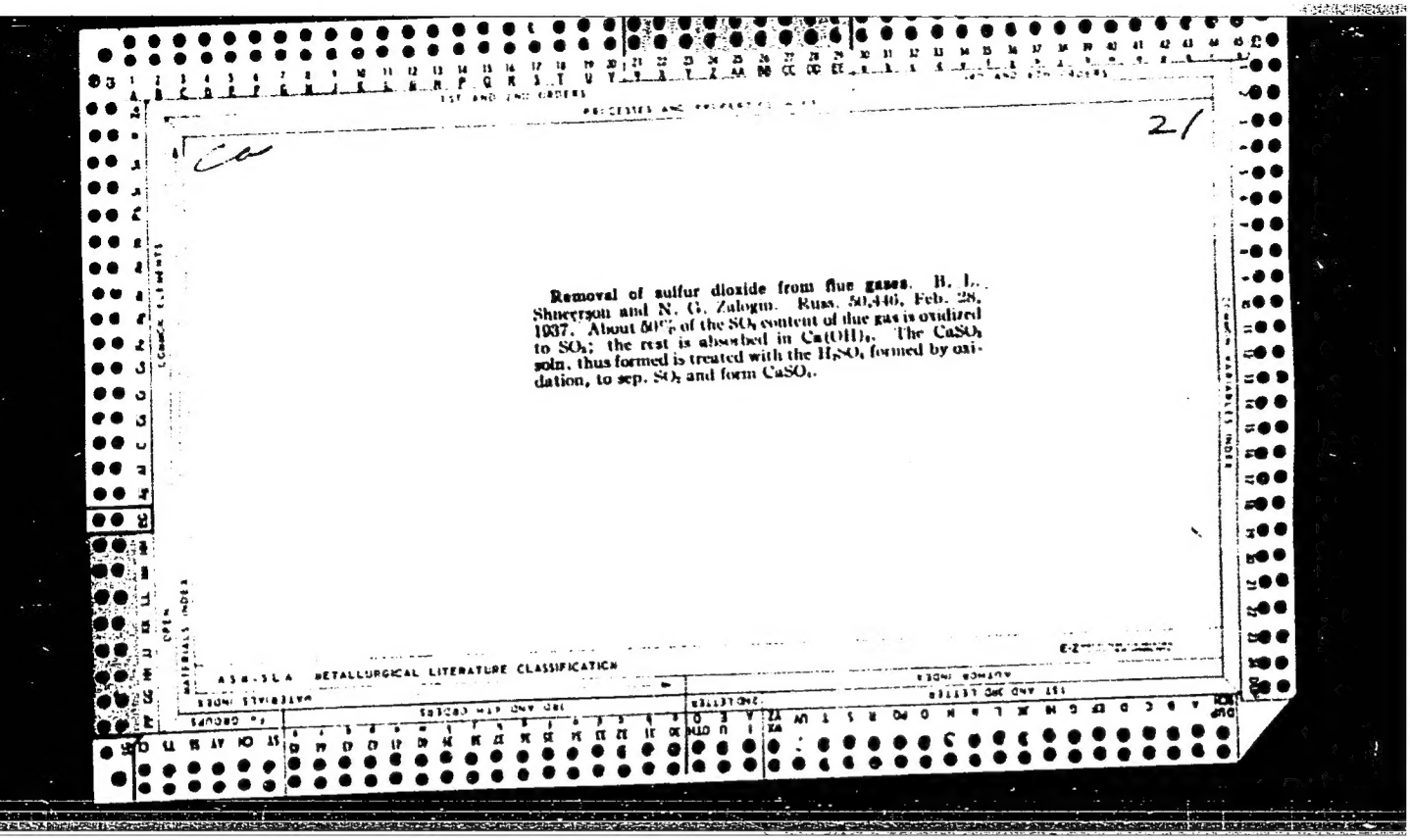


Separating arsenious oxide from sulfur-burner gases. S. M. Golyand and B. L. Shneerson. Russ. 41,507, Feb. 28, 1935. To avoid the pptn. of both As and S compds., the gases are preliminarily cooled to about 280–300°, and subjected to elec. pptn., and then passed through a cooler flushed with 30% H_2SO_4 to bring the temp. to 100°, in such a manner as to obtain H_2SO_4 of 62–70%. The gases are then passed through a second set of elec. filters to ppt. the remaining As compds.



Production of sulfuric acid in the process of smoke abatement at electric centralizations. B. L. Shneerson. *Trans. VI Mendeleev Congr. 1932* 2, [illegible]

The high content of S in low-grade coal used at great elec. central stations of the Moscow district varies from 2.0 to 4.0%, which renders the smoke gases very noxious. Its reclamation presents a serious problem. The methods of desulfurization used abroad are briefly reviewed. By oxidation of SO_2 in presence of Mn sulfoxide or $MnCl_2$ at the "Giaeotekh-tka" Inst. H_2SO_4 was obtained of 25% concn. and with a content of 0.02% of Mn sulfoxide when the latter was used. A pilot plant working by this method has been constructed. In tests on oxidation in a high-tension field, an oxidation rate of up to 90% was attained and 70% H_2SO_4 was obtained. F. F. S.



Ca

21

Removal of sulfur dioxide from flue gases. B. L. Shneerson and N. G. Zalogin. Russ. 50,446, Feb. 28, 1937. About 50% of the SO_2 content of flue gas is oxidized to SO_3; the rest is absorbed in $Ca(OH)_2$. The $CaSO_3$ soln. thus formed is treated with the H_2SO_4 formed by oxidation, to sep. SO_2 and form $CaSO_4$.

A 54-5 LA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

SHNEYERSON, E.L.

1

CA

Gas purification in nonferrous metallurgical plants. B. L. Shneyerson. *Tsvetnye Metal.* 15, No. 1, 61-72(1940); *Chem. Zentr.* 1941, I, 1219-20.—The amt. and compn. of dust and other impurities in the gases in nonferrous metallurgical plants as well as the hazards and possibility of their removal are discussed. Various dust-filtering app. are described and the causes of their failure in some Russian plants are analyzed. Installations for preventing losses or impurities in such gases as SO_2 or S and the utilization of these gases are described. M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHEYERSON, B. I.

Mbr., Inst. Geophysics, Dept. Physico-Math. Sci., Acad. Sci., -1947-c48-. Mbr., Inst. Geological Sci., Dept. Geologico-Geog. Sci., Acad. Sci., -1940-. "On Gravitational Anomalies in the Ishimbayev District," Dok. AN, 29, Nos. 5-6, 1940; "Mechanism of the Formation of Salt Domes," Iz. Ak. Nauk SSSR, Ser. Geog. i Geofiz., 2, No. 6, 1947; "Some Cases of Deformation of Mountain Strata while in a Plastic State," ibid., 12, No. 4, 1948.

[redacted], G. I.

Dr., Institute Theoretical Geophysics, Acad. Sci., 1944.

"Thermal Method of Prospecting vs. Gravitational and Electric Methods."
Dil. Ak, 1, No. 1, 1945.

[illegible], B. L.

"On a Method of Distinction of Local and Regional Gravimetric Fields," Iz. Ak Nauk Geograf i Geofiz" Vol X, 1946. With an increasing distance from the earth's surface the disturbing action of two masses will decrease in a different order as the relative changes of the distance from them will be different order.

SHNEYERSON, B.L.

Application of the theory of similitudes to geological modeling.
Trudy Inst.teor.geofiz. 3:94-106 '47. (MIRA 9:9)
(Dimensional analysis) (Geological modeling)

SHNEYERSON, B. L. 16T99

USSR/Metals, Nonferrous May/Jun 1947
Mineral industries

"Dust-collecting and Gas-purifying for Nonferrous Metal Industries," B. L. Shneyerson, State Institute of Nonferrous Metallurgy, 8 pp

"Tsvetnyye Metally" No 3

For optimum exploitation of nonferrous metals it is necessary to purify the resulting gases and collect dust. Cyclone attachments to chimneys are discussed. Graphs and tables on the processing of both dust and gas.

16T99

USSR/Minerals Nov/Dec 1947
Geophys
Salt

"Mechanism of the Formation of Salt Domes," B. L. Shneyerson, Inst Theoretical Geophys, Acad Sci USSR, 5½ pp

"Izv Akad Nauk SSSR, Ser Geograf i Geofiz" Vol XI, No 6

Uses method of calculating energy necessary for formation of salt domes to explain conditions necessary for these forces. Explains process systematically: States that the salt travels upward in the shape of a pillar. Calculations show, that if such

57T66

USSR/Minerals (Contd) Nov/Dec 1947

hypothesis were adopted, there is need for large tangential force that is expended primarily on the piercing of the rock lying over the salt pillar. Submitted by Academician L. S. Leybenzon, 21 Apr 1947.

57T66

PA 57T66

SHNEYERSON, B. L.

SHMEYERSON, F. L.

USSR/Geology Jul/Aug 48
Stratification
Orography

"Some Cases of Deformation of Mountain Strata While in a Plastic State," B. L. Shmeyerson, Acad Sci USSR, Geophys Inst, 12½ pp

"Iz Ak Nauk SSSR, Ser Geog i Geofiz" Vol XII, No 4

Shows that increase of width of a strata due to lateral pressure can be calculated by means of a complex rule. Explains how uneven pressure from top is responsible for formation of salt domes. Submitted by Acad L. S. Leybenzon 21 Apr 1948.

1/49755

SHNEYERSON, B. L.

1/2

Šneerson, B. L. Some problems on the motion of viscous fluids applied to geology. Izvestiya Akad. Nauk SSSR. Ser. Geofiz. 1953, 500–513 (1953). (Russian)

L'auteur étudie d'abord le problème aux limites suivant. Dans le plan Oxy (Oy étant la verticale ascendante), considérons les domaines: S_1 tel que $x^2+y^2 \leqq R^2$, $y \geqq 0$; et S_2 tel que: $x^2+y^2 \geqq R^2$, $x^2+y^2 \geqq R^2$, $0 \leqq y \leqq h$, $h>R$. A l'instant initial S_i ($i=1, 2$) est rempli avec des liquides visqueux dont les densités et les coefficients de viscosité valent respectivement ρ_i et μ_i. Dans le mouvement des liquides qui se produit, on suppose la continuité des vitesses et des tensions à travers la surface de séparation; pour $y=0$ et $y=h$, la vitesse est horizontale. On obtient un problème voisin en remplaçant sur $y=h$ la condition ci-dessus par celle d'annulation des tensions normales. Les forces d'inertie sont négligées. Le problème consiste à déterminer, à l'instant initial, les vitesses dans S_1 et S_2 et principalement, le long du demi-cercle $x^2+y^2=R^2$. Dans le cas $h=\infty$, l'auteur utilise la méthode de Muskhelishvili pour former la solution sous forme de séries numériquement calculables. Il passe de là au cas général au moyen d'un artifice.

(over)

212

SWEENEY, B.L.

L'auteur tente une interprétation géologique du problème qu'il résout. Le processus tectonique est d'une extrême lenteur; on peut donc négliger effectivement les forces d'inertie, même le terme $\rho\ddot{V}/\partial t$. Les équations ci-dessus donneraient les lois—à une échelle des temps convenable—de la déformation géologique des coupoles de sel. La concordance avec les faits observés ne peut être que qualitative. On lira avec intérêt les développements que l'auteur consacre à ces questions. *J. Kravtchenko* (Grenoble).

15-57-5-6835

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 159 (USSR)

AUTHORS: Shneyerson, B. L., Lavrov, I. P.

TITLE: An Experiment of Applying a Detailed Gravimetric Survey in the Region of the Kuzbas (Opyt primeneniya detal'noy gravimetricheskoy s"yemki v rayone Kuzbassa)

PERIODICAL: Prikl. geofizika, Nr 15, 1956, pp 103-108.

ABSTRACT: In 1953 an experimental-type detailed gravimetric survey of high precision was made over the Borisovskaya struktura (structure) in the northeastern part of the Kuznetsk Basin on the western slope of the Krapivenskoye uplift. The measurements were made by two SN-3 quartz gravimeters along four east-west profiles, intersecting the strike of the rocks in the crestal part of the southern uplift of the Borisovskaya structure. The distance between the profiles was 0.5 km, and the station spacing along the profiles was 250 m. At most

Card 1/2

An Experiment of Applying a Detailed Gravimetric Survey (Cont.)

points four readings were made on separate traverses. The measurements of Δg are shown graphically along each of the four profiles. A local positive anomaly amounting to about three milligals is observed on each profile against the background of a regional increase in gravity. This small anomaly corresponds to the crest of the Borisovskaya structure. An agreement is observed between the derived curve of Δg and the slope angle of the flanking horizons on the western and eastern limbs of the uplift. An attempt is made to evaluate approximately the position of the disturbed mass as affected by the local anomaly of the Borisovskaya structure.

A. L.

Card 2/2

SOV/137-58-9-18727

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 83 (USSR)

AUTHOR: Shneyerson, B.I.

TITLE: Gas Cleaning Progress in the USSR and Abroad (Dostizheniya v oblasti pyleulavlivaniya v SSSR i za rubezhom)

PERIODICAL: Sb. materialov po pyleulavlivaniyu v tsvetn. metallurgii. Moscow, Metallurgizdat, 1957, pp 20-37

ABSTRACT: An examination of gas-cleaning problems in the nonferrous metallurgy of the USSR and of foreign countries is made. The need to separate dust from industrial and ventilation gases is noted. To reduce the cost of dust-removing installations (D), it is desirable to reduce the amount of gases taken off by suction. This is attainable in a number of ways: By sealing the equipment, by returning gases to sintering machines, utilization of electrical smelting, etc. The efficiency of the cyclone gas cleaners in use under various conditions is noted. D procedures for fluidized-solids furnaces are examined. The use of electrostatic precipitators to separate fine dust is examined, with particular reference to the conductivity of the layer of dust precipitated on the surface of the precipitating electrodes.

Card 1/2

SOV/137-58-9-18727

Gas Cleaning Progress in the USSR and Abroad

Note is taken of the wide use in the USA of efficient magnetic-impulse shaking of electrodes. Attention is drawn to the wide use of bag-type filters to separate poorly conducting dusts. Information is communicated on the use of high-speed gas cleaners and also on wet-process electrostatic precipitators. See also RZhMet, 1958, Nr 8, abstracts 16596-16603.

G.G.

1. Gases--Cleaning 2. Particles (Airborne)--Control systems

Card 2/2

SOV/137-58-12-24280

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 50 (USSR)

AUTHOR: Shneyerson, B. L.

TITLE: Removal of Dust From Gases in Cyclones (Ochistka gazov ot pyli v tsiklonakh)

PERIODICAL: V sb.: Vopr. polucheniya sernist. gaza iz kolchedana i sery. Leningrad, Goskhimizdat, 1957, pp 147-148

ABSTRACT: The cyclone-type gas cleaner(CC) should be regarded as the primary equipment for picking up coarse dust and for partial removal of fine dust from gases. When they are properly designed, manufactured, and operated, CC are of satisfactory effectiveness. CC batteries have given a good account of themselves. In fluidized-solids roasting (FS) as used in nonferrous metallurgy two CC stages are mounted in series to provide a total dust removal of 94-98%. The ultimate dust content of the gases is 2-6 g/nm^3. In the FS roasting of pyrite concentrates, the Dorr Company (USA) installs 3 consecutive CC stages along with wet cleaners. At the Kozako plant in Japan, furnaces, 2 CC stages, a moistening tower, and a high-speed gas cleaner are used in FS roasting of Cu-Zn concentrates. Removal in the first CC

Card 1/2

Removal of Dust From Gases in Cyclones (cont.)

stage is 85%, in the second stage 95%. Note is taken of the rising interest, in the USA, in the use of CC in various branches of industry, particularly for the cleaning of hot flue gases (700°C and 5 atm abs pressure) used in gas turbines. A battery CC element with minimal gas overflow, improving the effectiveness of battery CC, has been developed.

G.G.

Card 2/2

SHNYUKOV, B.L.

PHASE I BOOK EXPLOITATION SOV/3502

Akademiya nauk SSSR. Institut fiziki zemli

Metodicheskiye issledovaniya po gravirazvedke i elektrorazvedke v Zapadnoy Sibiri. (Systematic Studies on Gravitational and Electric Prospecting in Western Siberia) Moscow, Izd-vo AN SSSR, 1959. 59 p. (Series: Its Trudy, No. 4) Errata slip inserted. 1,400 copies printed.

Ed.: A.G. Kalashnikov, Professor; Ed. of Publishing House: Ye.B. Kuznetsova; Tech. Ed.: Yu.V. Rylina.

PURPOSE: The publication is intended for geophysicists and geologists, particularly for those interested in the geological structure of Western Siberia from the point of view of oil and natural gas deposits.

COVERAGE: This is a symposium of four articles published by the Institute of Physics of the Earth of the Academy of Sciences USSR. The articles deal mainly with geological prospecting in Western Siberia for oil and natural gas by using geophysical methods, such as electrical sounding and investigation of gravitational fields. References (all Soviet) are given at the end of each article.

Card 1/2

Studies on Method (Cont.) SOV/3502

TABLE OF CONTENTS

AVAILABLE: Library of Congress

Card 2/2

TM/mas
5-13-60

SHNEYERSON, B.L.

Studying the gravitational field of Siberia. Trudy Inst.fiz. Zem. no.4:8-21 '59. (MIRA 13:5)
(Siberia--Gravity)

SOV/49-59-10-10/19

AUTHOR: Shneyerson, B. L.

TITLE: On the Cause of Intensive Magnetic Anomalies KMA

PERIODICAL: Izvestiya Akademii nauk SSR, Seriya geofizicheskaya 1959, Nr 10, pp 1500-1501 (USSR)

ABSTRACT: The Kursk Magnetic Anomalies (KMA) caused by the deposits of iron are described and the vertical component of the field Z_a (Eq (1)) (Fig 1) is derived. Fig 2 gives the values of I_i (Eq (1)) in relation to the perceptibility $\varkappa$ for H_0 = 50000 γ and N = 2π. The value of Z_a as calculated from Eq (1) was found to be $Z_{a_{max}}$ = 14000 γ, but if a magnetic field in the form of a cylinder is considered, this value will be $Z_{a_{max}}$ = 31000 γ. The theoretical values are 4 - 10 times smaller than the observed ones, which cannot be explained without further investigation of the following factors: $Q = I_r/I_i$, $\varkappa$ and the demagnetisation N. There are 2 figures and 7 references, 4 of which are Soviet and 3 German.

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli (Academy of Sciences USSR. Institute of Physics of the Earth)

SUBMITTED: July 14, 1959

Card 1/1

DEVITSYN, V.M.; LAPINA, M.I.; SHNEYERSON, B.L.

Effect of inhomogeneous magnetization of a body of constant susceptibility on the results of magnetic anomaly interpretation by simple methods. Izv. AN SSR. Ser. geofiz. no. 3:428-432 Mr '61. (MIRA 14:2)

1. Institut fiziki Zemli AN SSSR.
(Shchigry Region--Magnetic prospecting)

ACC NR: AP7002960 (A) SOURCE CODE: UR/0413/66/000/024/0039/0040

INVENTOR: Shneyerson, E. M.

ORG: None

TITLE: An impedance relay. Class 21, No. 189478 [announced by the Chuvash Electrical Engineering Scientific Research Institute (Chuvashskiy elektrotekhnicheskiy nauchno-issledovatel'skiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 39-40

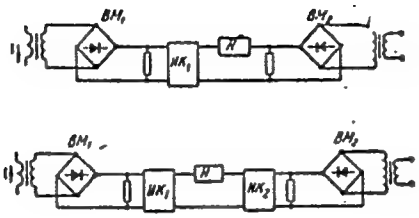
TOPIC TAGS: electric impedance, electric relay

ABSTRACT: This Author's Certificate introduces: 1. An impedance relay based on a circuit for comparison of the absolute values of two quantities. The unit contains intermediate current and voltage transformers with bridge rectifiers and null indicators connected in the secondary winding circuits. The relay is designed for time-dependent operating characteristics. A unit consisting of integrating and differentiating elements is connected in the current transformer circuit between the null indicator and the output of the bridge rectifier. 2. A modification of this relay designed for step characteristics by using a second unit consisting of integrating and differentiating elements between the null indicator and the bridge rectifier in the voltage transformer circuit.

UDC: 621.316.925.451

Card 1/2

ACC NR: AP7002960



H--null indicator; BM_1 and BM_2--bridge rectifiers; $ИК_1$ and $ИК_2$--integrodifferentiating circuits

SUB CODE: 09/ SUBM DATE: 24Dec65

Card 2/2

[redacted], N. S.

"Taking of materials from cholera patients by means of arar tampons."

Zhur. Mikrobiol., Epidemiol, i Immunobiol, No. 6, 1944.

SHNEYERSON, F.S.

Improving the method for taking material in mass analyses for diphtheria. Lab.delo 2 no.4:30 Jl-Ag '56. (MLRA 9:10)

1. Iz laboratorii gorodskoy sanitarno-epidemiologicheskoy stantsii Gomelya (glavnyy vrach Ye.T.Khazanov)
(DIPHTHERIA)

USSR/Microbiology - Microbes Pathogenic for Man and Animals. F
Bacteria. Bacteria of the Intestinal Group.

Abs Jour : Ref Zhur Biol., No 22, 1958, 99409

Author : Shneyerson, F.Z.
Inst :
Title : Simplified Method of Determination of the Microbes of the Intestinal Group in Mass Investigations.

Orig Pub : Zdravookhr. Belorussii, 1957, No 12, 45-46

Abstract : No abstract.

Card 1/1

Shneyerson, G.A.

AUTHORS Aleksandrov, G.N. Shneyerson, G.A. 57-8-22/36

TITLE Characteristics of Corona on split Wires at the Alternating Voltage.
(Kharakteristiki korony na rasshcheplennykh provodakh pri peremennom napryazhenii.)

PERIODICAL Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 8, pp. 1811-1817 (USSR)

ABSTRACT The conditions for the development of a corona on split wires were investigated and the characteristics of the corona in the case of transition- and steady operation were measured. The measurements of the corona characteristics were carried out in a cylinder of a diameter of 2 m at a wire split into three parts, the components of which are situated at the points of an equilateral triangle. Each of the components of the split wire was formed by a flat copper rod of a diameter of 0,79 cm and a length of 6 m. The authors show that the field voltage at the surface of the conducting cylinder in a field of a homogenously charged thread is equal to the double magnitude of the voltage component of the thread-field normal to the cylinder surface, which was measured at the same point when the cylinder was absent. The authors show that in the case of

CARD 1/3

Characteristics of Corona on split Wires at the Alternating Voltage.

a change of the ratio d/r_0 (d= distance between the axes of the component of split wire, r_0 = radius of the component) the initial corona voltage is practically constant within very wide limits. This fact coincides with the calculation results of initial corona voltages on split wires and single wires. The split wires used in practice have $d/r_0 = 20$. Under these conditions the influence of the neighbouring wires on the field character within the ionization-zone limits is little. Correspondingly the initial corona voltage on the surface of the components of split wires is practically equal to the initial corona voltage on the surface of single wires of the same construction. The oscillograms taken show that the transition process during the corona formation develops within three semi-periods. An essential difference of character of the transition process in the case of positive and negative polarity of the first voltage half-wave was not observed. The magnitude of the initial voltages of the positive and negative corona are practically equal to the voltages

CARD 2/3

20662

S/057/61/031/001/007/017
B104/B204

9.1920 (3402, 2603, 2904, 1103)

AUTHOR: Shneyerson, G. A.

TITLE: The calculation of the alternating current distribution on the surface of a body of rotation in the presence of a strong skin effect

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 1, 1961, 51-54

TEXT: V. A. Fok (Ref. 1) solved the problem of the distribution of alternating current on the surface of a toroid in the presence of a strong skin effect if, on the surface, the condition $H_n = 0$ (1) is satisfied. It is shown in the present paper that the analogous problem of a body of rotation of any shape leads to the solution of an integral equation. For reasons of symmetry it is clear that in the absence of an external field, the current density on the surface of a body produced by the rotation of a boundary about the z-axis has only an azimuthal component. From (1) follows the constancy of the magnetic flux Φ through a circle with the radius $r_s(z)$, where $0 \leqslant z \leqslant l$, and l is the maximum axial extension

Card 1/7

of the body. Thus, $A_\varphi(s) = \Phi/2\pi r_s$ (2) is obtained for the azimuthal component of the magnetic potential at the point s on the surface of the body. On the other hand,

$$A_\varphi(s) = \frac{\mu_0}{2\pi r_s} \int_S \sqrt{(z-z_1)^2 + (r_s+r_{s_1})^2} \left\{K(k) \frac{2-k^2}{2} - E(k)\right\} j_\varphi(s_1)\,dS(s_1) \quad (3),$$

where K(k) and E(k) are elliptical integrals with the modulus $k = 2\sqrt{r_s r_{s_1}}/\sqrt{(z-z_1)^2 + (r_s+r_{s_1})^2}$. By putting (2) and (3) equal, the the author obtains an integral equation for j_φ:

$$\frac{\Phi}{\mu_0} = \int_S \sqrt{(z-z_1)^2 + (r_s+r_{s_1})^2} \left\{K(k) \frac{2-k^2}{2} - E(k)\right\} j_\varphi(s_1)\,dS(S_1) \quad (4).$$

As an example, an infinitely thin, short, circular solenoid is studied.

Card 2/ 7

It is assumed that $a = l/d \leq 1$, where d is the diameter of the solenoid. By introducing the variables $x = (z-l/2):l/2$; $t = (z_1-l/2):l/2$; $\delta = j:j_o$, where $j = j_{\varphi i} + j_{\varphi e}$ is the total current density occurring on the inner and outer surfaces of the cylinder; $j_o = I/l$ is the mean current density, the author obtains the following relation for (4):

$$\frac{2L}{\mu_o d} = \int_{-1}^{1} \sqrt{1 + \frac{a^2(x-t)^2}{4}} \left\{ K\left(\frac{1}{\sqrt{1+a^2(x-t)^2/4}}\right) \times \left(1 - \frac{1}{2\left\{1 + a^2(x-t)^2/4\right\}}\right) \right.$$

$$\left. - E\left(\frac{1}{\sqrt{1 + a^2(x-t)^2/4}}\right) \right\} \delta(t)dt = \int_{-1}^{1} T'(|x-t|)\delta(t)dt \quad (5),$$

where $L = \Phi/I$ is

Card 3/ 7

the inductivity of the system. By means of suitable transformations, the integral equation

$$-2L/\mu_0 d = \int_{-1}^{1} \left\{\ln(x-t) + 2 - 3\ln 2 + \ln a - 2a_0 + a_2 - 3a_2(x-t)^2/4\right\}\delta(t)dt \quad (12)$$

is obtained for (5), from which $j(x) = \frac{I}{l}\frac{2(1+3a_2/4 - 3a_2x^2/2)}{\pi\sqrt{1-x^2}}$ (13) is obtained for the density of the surface current, and

$$L = \frac{\mu_0 d}{2}\left\{\ln\frac{16}{a} - 2 + 2a_0 - a_2/4 - 9a_2^2/64\right\} \quad (14)$$ for the inductivity.

The distribution of the current density is shown in Fig. 1, while Fig. 2 shows the inductivity and the magnetic field in the interior of the solenoid; Table 1 gives numerical values calculated by G. S. Kaplan, student of LPI. The author thanks Professor G. A. Grinberg for valuable advice. There are 2 figures, 1 table, and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina
(Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: April 27, 1960

Legend to Fig. 1: Current density distribution on the cylinder surface for a = 0.2, 0.4, 0.6, 0.8, and 1.0.

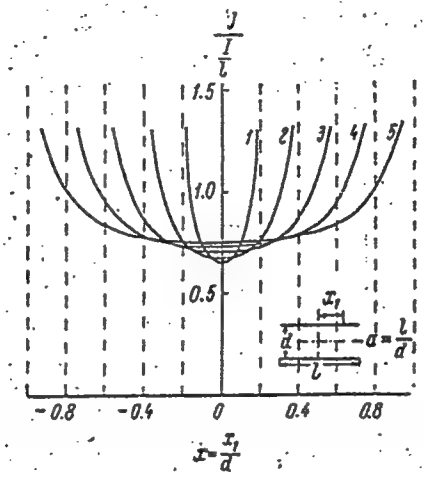


Fig. 1

Card 5/7

SHNEYERSON, G.A.

Production of a high pulsed magnetic field in solid single-turn solenoids of small volume. Zhur. tekh. fiz. 32 no.9:1153-1156 S '62. (MIRA 15:9)

1. Leningradskiy politekhnicheskiy institut imeni M.I. Kalinina.
(Solenoids) (Magnetic fields)

24 (3)10

4214
S/057/62/032/011/006/014
B104/B102

AUTHOR: Shneyerson, G. A.

TITLE: An approximate calculation of the hf inductance of two parallel plates connected by cylindrical conductors

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 11, 1962, 1349-1360

TEXT: The "superconducting" system shown in Fig. 1 is investigated. It is assumed that one of the two plates is connected with an a.c. source. The surface effects are strongly marked by the superconductivity. The condition for the process to be quasi-stationary is $\omega R_M/c \ll 1$ and it is assumed that $h \ll r_m$. Here R_M is the maximum dimension of the system in the plane, h is the distance between the plates, and r_m is the minimum distance between the conductors. An expression is derived for the inductance of the system, correct as regards those terms which are proportional to h^2. The current distribution on the surface is found after a long calculation using the method of G. A. Grinberg and Yu. V. Pimenov (ZhTF, 27, 2326, 1957; ZhTF, 28, 542, 1958). The expression

Card 1/4

An approximate calculation ...

$$L \approx \mu_0 h (U_1 - U_2)^2 \cdot \left\{ (U_1 - U_2) \int_{\sigma_1} \left(\frac{\partial u'}{\partial n_e}\right)_e dl(c) + \frac{1}{h} \iint_{SS} \frac{du'}{ds_1} \cdot \frac{du'}{ds_2} \times \right.$$

$$\times \left[\rho_{12} - \sqrt{\rho_{12}^2 + h^2} + h \ln \frac{h + \sqrt{h_{12}^2 + \rho_{12}^2}}{\rho_{12}} \right] ds_1 ds_2 + \qquad (54)$$

$$\left. + \frac{h\left(\frac{3}{2} + \ln 2\pi\right)}{2\pi} \int_S \left(\frac{du}{ds}\right)^2 ds \right\}^{-1} \cdot \ldots$$

for the inductance is derived by using

$$L = \frac{\Phi^2}{D} = \frac{-\frac{4}{\omega^2}(U_1 - U_2)^2}{\iint_{F+F'} \mathrm{A} j dF + \iint_{\Pi_1 + \Pi_2} A_s j_s d\Pi} . \qquad (46)$$

Card 2/4

for the current distribution, and taking account of the approximate representation

$$D=2\int\int_F \frac{-1}{i\omega}\operatorname{grad}\left\{u'+u''+\frac{1}{2\pi h}\int_{C_1+C_2}\left[\frac{\partial(u'+u'')}{\partial n_e}\right]_e\left(r_{eN}-\sqrt{r_{eN}^2+h^2}+\right.\right.$$
$$\left.\left.+h\ln\frac{h+\sqrt{h^2+r_{eN}^2}}{r_{eN}}\right)dl(c)\right\}\left[\frac{-2}{i\omega\mu_0 h}\operatorname{grad}(u'+u'')+\right.$$
$$\left.+\frac{1}{i\pi h^2\omega\mu_0}\int_R\frac{du'(s)}{ds}\left(r_{eN}-\sqrt{r_{eN}^2+h^2}\right)\frac{e_{\varphi N}(s)\,ds}{r_{eN}}+j_s\right]dF(N)+ \quad (49).$$
$$+\int_{C_1+C_2}\int_0^h\left\{\frac{1}{2\pi i\omega h}\int_{C_1+C_2}\left[\frac{\partial(u'+u'')}{\partial n_{c_1}}\right]_e\ln\frac{z+\sqrt{z^2+r_{cc_1}^2}}{z-h+\sqrt{(z-h)^2+r_{cc_1}^2}}dl(c_1)\right\}\times$$
$$\times\frac{-2}{i\omega\mu_0 h}\left[\frac{\partial(u'+u'')}{\partial n_e}\right]_e dz\,dl(c). \quad (49)$$

Card 3/4

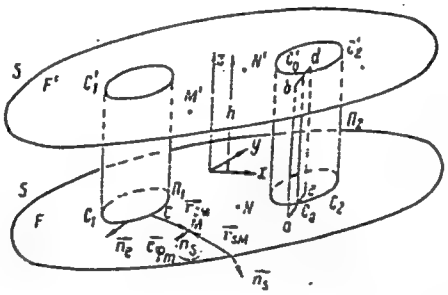
S/057/62/032/011/006/014
B104/B102

Here u is the scalar potential and $\vec{A}$ the vector potential. It follows that for infinitely large plates the inductance is proportional to the first power of h. For plates of finite dimensions, the expression for the inductance includes terms proportional to the second and higher power of h. The relative error of the expression for the inductance is proportional to $(h/r)^2$, thus satisfying the technical requirements. There are 3 figures.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina
(Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: November 9, 1961

Fig. 1. "Superconducting" system



Card 4/4

ACCESSION NR: AP4013434 S/0057/64/034/002/0376/0378

AUTHOR: Gordiyenko, V.P.; Shneyerson, G.A.

TITLE: Electric disruption of the skin layer

SOURCE: Zhurnal tekhn.fiz.,v.34, n0.2, 1964, 376-378

TOPIC TAGS: solenoid, pulsed solenoid, magnetic field, skin effect, solenoid metal loss, pulsed solenoid metal loss, Wood's metal

ABSTRACT: The disruption of the surface layer of high current pulsed solenoids as a result of overheating by the high current densities due to the skin effect was investigated experimentally. Single turn solenoids of Wood's metal were employed. The use of Wood's metal made it possible to observe melting and disruption during the initial rise of the current pulse. The solenoids all had an initial inner radius of 1.7 mm, an outer radius of 20 mm, and a length of 5.5 mm. The natural frequency of the capacitor - solenoid circuit was 65 kc and its damping constant was 1.49. The kinematics of the process was followed by displaying the filed at the center of the solenoid on an oscilloscope. Increase of the inner radius of the solenoid was observed to set in when the field strength reached 41 Weber/m^2. When

Card 1/2

ACCESSION NR: AP4013434

the capacitor was initially charged to 65 kV, the maximum current was 710 kA and the inner radius increased at the mean rate of 680 m/sec. Under these conditions the final inner radius was about 8 mm. This increase in radius was due, within the 10% experimental error, entirely to loss of metal; there was no evidence that deformation occurred. Deposits of metal on a screen placed near the solenoid were composed mostly of frozen drops of liquid metal, although a small amount of condensation from the vapor phase appeared to have occurred. The vigorous expulsion of the molten metal is ascribed to the development of magnetohydrodynamic instabilities of the type investigated by S.A.Colgate, H.P.Furth and F.O.Halliday (Rev.Mod. Phys.32,744,1960). Orig.art.has: 6 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 25Jun63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: PH NR REF SOV: 003 OTHER: 003

Card 2/2

L 7936-66

ACC NR: AP5027024 SOURCE CODE: UR/0120/65/000/005/0123/0128

AUTHORS: Zayyents, S. L.; Nikolayevskaya, N. N.; Shneyerson, G. A. 26 23

ORG: Leningrad Polytechnic Institute (Leningradskiy politekhnicheskiy institut)

TITLE: Obtaining unipolar current pulses with 10—100 kamp heights

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 123-128

TOPIC TAGS: circuit theory, electric resistance, nonlinear effect, electric capacitance, electric current

ABSTRACT: Unipolar current pulses are obtained by connecting a capacitor bank with inductive load and nonlinear resistance in series with an electric discharge circuit. The nonlinear resistance depends on the current in a manner given by $R \approx a/|I|^{1-\alpha}$ where, in practice, (e.g., in carborundum products such as tyrite) $0.13 \leq \alpha \leq 0.22$. Analysis of the above circuit leads, after nondimensionalization, to equations

Card 1/2 UDC: 621.373

L 7936-66

ACC NR: AP5027024

$$\frac{d^2j}{d\tau^2}+|j|^{\alpha-1}\frac{dj}{d\tau}+j=0,$$

$$j(0)=0;\ \left.\frac{dj}{d\tau}\right|_{\tau=0}=\frac{U}{z}\left(\frac{z\delta^{\alpha}}{\alpha a_0 h}\right)^{\frac{1}{1-\alpha}}=A.$$

which are solved numerically on the computer Ural-1. The results are plotted as a j/A versus ωt graph for various values of the parameter α. It is shown that for $\alpha \approx 0.14$ (vylite), the optimum regime is defined by the condition A ≈ 30, where the first current amplitude equals 65% of the amplitude corresponding to the sustained oscillations, and the second is lower by an order of magnitude. These results are verified experimentally on a 130-mm diameter, 50-mm thick "vylite" disk. The current densities attained in the circuit were as high as 1 to 1.3 kamp/cm^2 at 4 to 6 μ sec duration. It is shown that the current density pulse increases substantially if the disk is connected in parallel to the circuit. Orig. art. has: 9 equations, 4 figures, and 3 tables. [04]

SUB CODE: 09/ SUBM DATE: 07Sep64/ ORIG REF: 001/ OTH REF: 001/ ATD PRESS: 4147

Card 2/2

L 54756-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) Pf-4 JD/HW

ACCESSION NR: AP5015633 UR/0057/65/035/006/1084/1090

28
AUTHOR: Gordiyenko, V.P.; Shneyerson, G.A. 26
1

TITLE: Investigation of the deformation of single-turn solenoids in relatively slowly rising strong magnetic fields

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.6, 1965, 1084-1090

TOPIC TAGS: solenoid, plastic deformation, steel

ABSTRACT: The authors have investigated the deformation of single-turn solenoids of low-carbon steel during the passage of a heavy current. The shape of the solenoids is shown in the Enclosure. The outer diameter D was always 39.5 mm, the inner diameter d was 5 or 10 mm, and the length l was 5.5, 10 or 20 mm. The current was provided by discharge of a 28.5 microfd capacitor charged to 100 kV or less. The rise time was 31 microsec, and peak currents up to 1800 kA were achieved. During the discharge the outer surface of the solenoid was confined by a massive steel ring. The current through the solenoid and the magnetic field at its center were recorded oscillo-

Card 1/3

L 54756-65 2

ACCESSION NR: AP5015633

graphically. From the ratio of the current to the magnetic field it was possible approximately to determine the inner radius of the solenoid at any instant during the discharge. Rates of increase of the inner radius up to 470 m/sec were observed. Theoretical rates of increase of the inner radius were calculated by treating the solenoid as an ideal liquid and assuming quasisteady flow. The theoretical rate was only 10% greater than the observed rate. The relative importance of plastic flow with increase in the solenoid length compared with loss of metal was found to increase with increasing maximum current. Further experiments will be required to determine whether this is also the case for solenoids of other metals than steel. "The authors are grateful to N.A.Zaltin for discussing the results of the work." Orig.art.has: 4 formulas, 6 figures and 3 tables.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M.I.Kalinina (Leningrad Polytechnic Institute)

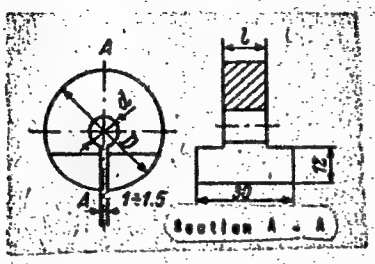
SUBMITTED: 29Aug64 ENCL: 01 SUB CODE: EE, EM

NR REF SOV: 006 OTHER: 001

Card 2/3

L 54756-65
ACCESSION NR: AP5015633

ENCLOSURE 01



Single-turn solenoid.
The dimensions are in millimeters.

Card 3/3 MB

L 13442-66 EWT(1) IJP(c)

ACC NR: AP6002451 SOURCE CODE: UR/0057/65/035/012/2234/2239

AUTHOR: Shneyerson, G.A.

ORG: none

TITLE: Penetration of a pulsed magnetic field into a thin-walled cylinder that is heated by the induced current

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 12, 1965, 2234-2239

TOPIC TAGS: magnetic field, pulsed magnetic field, axisymmetric body, ~~time constant~~ induced current

ABSTRACT: The penetration into the interior of an infinitely long thin-walled metallic cylinder of a uniform axial magnetic field suddenly created outside it is calculated with the nonlinear effects arising from the change in the resistivity of the cylinder wall owing to heating by the induced current taken into account. For the calculation it is assumed that the resistivity of the metal is a linear function of the heat content per unit volume, and heat exchange with the surroundings is neglected. The nonlinear integrodifferential equation for the current is integrated once directly and the resulting equation is solved by separation of variables. The rise of the field within the cylinder is characterized by the value of the ratio B_e/B_0' of the external magnetic field strength B_e to the critical field strength $B_0' = (4h\,\mu_0/r\rho)^{1/2}$, where h is the wall thickness, r is the radius of the cylinder,

Card 1/2 UDC: 538.244.2

L 13442-66

ACC NR: AP6002451

μ_0 is the permeability of the vacuum, and β is the derivative of the resistivity with respect to the heat content per unit volume. For copper, aluminum, and iron cylinders with $h/r = 0.05$, the critical field B_0' is 42, 32, and 47 Wb/m^2, respectively. The times required for the internal field to reach half its final value when the ratio B_e/B_0' is 0, 1, 2, or 3 are in the ratio 1 : 0.68 : 0.39 : 0.26. Orig. art. has: 27 formulas, 3 figures and 1 table.

SUB CODE: ::: 20 SUBM DATE: 23Apr65 ORIG.REF: 001 OTH REF: 000

Card 2/2

[illegible]

[illegible] of a condenser through a [illegible] bifilar formed by solid conductors. Izv.vys.ucheb.zav.; energ. 8 no.12:[illegible] D '65. (MIRA 19:1)

1. [illegible] politekhnicheskiy institut imeni M.I.Kalinina. [illegible] Submitted [illegible], 1965.

ZAYYENTS, S.L.; NIKOLAYEVSKAYA, N.N.; SHNEYERSON, G.A.

Generation of unipolar current pulses with an amplitude of ~10 ÷ 100 kiloampere. Prib. i tekh.eksp. 10 no.5: 123-128 S-O '65. (MIRA 19:1)

1. Leningradskiy politekhnicheskiy institut. Submitted Sept. 7, 1964.

SHNEYERSON, L.I.

USSR

2301. DEPHENOLATION OF WASTE WATERS FROM CORE-CHEMICAL PLANTS BY APPLICATION OF PURE CULTURES OF PHENOL-DESTROYING BACTERIA. Klyuikov, V.V., Rogovskaya, Ts.I. and Shneerson, L.I. (Gigiena Sanit. (Hyg. & Sanit., Moscow), July 1954, 36-38; abstr. in Chem. Abstr., 1954, vol. 48, 12393). It was found that a culture of the PhOH-destroying bacteria could not be maintained in the pure state under conditions of plant use. Furthermore, since the chemical composition of phenolic waste liquors varies considerably, the use of a single bacterial culture does not appear to be practical. The use of a biological method does not appear to be warranted scientifically and economically. C.A.

[illegible], [illegible] Y

[illegible] Inclination of Gear Teeth Along the Pitch-Line on the Tooth Surface.

Povysheniye iznosostoykosti i sroka sluzhby mashin. t. 2 (Increasing the Wear Resistance and Extending the Service Life of Machines. v. 2) Kiyev, Izd-vo AN UkrSSR, 1960. [illegible] p. [illegible] copies printed. (Series: Its: Trudy, t. 2)

Sponsoring Agency: Vsesoyuznoye nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Tsentral'noye i Kiyevskoye oblastnoye pravleniya. Institut [illegible]tekhniki AN UkrSSR.

Editorial Board: Resp. Ed.: B. D. Grozin; Deputy Resp. Ed.: D. A. Draygor; [illegible] Braun, I. [illegible] [illegible]ayzerman, I. V. Kra[illegible]el'skiy; Scientific Secretary: N. [illegible] [illegible]arabash; Ed. of v. 2: Ya. Al [illegible]amokhvalov; Tech. Ed.: N. P. Rakhlina.

COVERAGE: The collection contains papers presented at the Third Scientific Technical Conference held in Kiyev in September 1957 on problems of increasing the wear resistance and extending the service life of machines. The conference was sponsored by the Institut stroitel'noy mekhaniki AN UkrSSR (Institute of Structural Mechanics of the Academy of Sciences Ukrainian SSR), and by the Kiyevskaya oblastnaya organizatsiya nauchno-tekhnicheskogo obshchestva mashinostroitel'noy promyshlennosti (Kiyev Regional Organization of the Scientific Technical Society of the Machine-Building Industry).

S/122/60/000/010/003/015
A161/A030

18 1120

AUTHORS: Yelenevskiy, D.S., Candidate of Technical Sciences, and Shneyerson, L.M., Engineer

TITLE: Fatigue Resistance of Thermo-Chemically Hardened Steel Parts in Work with Asymmetrical Load Cycles

PERIODICAL: Vestnik mashinostroyeniya, 1960, No.10, pp. 17-22

TEXT: The authors tested case hardened and nitrided 12X2H4A (12Kh-2N4A) and 40 XHMA (40KhNMA) steel specimens. Case hardened specimens were tested in bending and twist and nitrided specimens in twist only. The information includes calculations. The results lead to the conclusion that the effect of thermo-chemical treatment depends considerably on the degree of asymmetry of the work load cycle, rising to the maximum at symmetrical load and dropping with increasing asymmetry. It was apparent that hardened layer properties and not interaction with the core metal has the determining effect, and this may be considered in calculations of fatigue resistance reserve. If a stress limit diagram (Fig.7) obtained in tests of full-scale machine parts is available, the resistance reserve for the case of cycle

Card 1/4

S/122/60/000/010/003/015
A161/A030

Fatigue Resistance of Thermo-Chemically Hardened Steel Parts in Work with Asymmetrical Load Cycles

similarity may be determined by the formula

$$n = \frac{(\sigma_{-1K})_D}{\sigma_a + \psi_2 \sigma_m} , \quad (1)$$

where $(\sigma_{-1K})_D$ is the durability limit of the part in symmetrical cycle, and ψ_2 the diagram reduction factor. But as such a diagram is seldom available, a diagram of smooth unhardened laboratory specimens has to be used and the known formula

$$n = \frac{\sigma_{-1}}{(K_\sigma)_D \sigma_a + \psi_1 \sigma_m} , \quad (2)$$

In all gear teeth failure cases known to the authors the fatigue sources were on the layer surface, and in fatigue failure of case hardened bevel gear rims there were characteristic sub-layer failures caused by resonance

S/122/60/000/010/003/015
A161/A030

Fatigue Resistance of Thermo-Chemically Hardened Steel Parts in Work with Asymmetrical Load Cycles

vibration which was produced by pitch inaccuracy. It is obvious that the surface finish of hardened layer has a decisive effect on the fatigue resistance of parts working with asymmetrical load cycles. It had been previously found by the authors that work hardening by shot blasting considerably neutralized the detrimental effect of grinding burns and residual tension stresses. Work hardening prevents the fatigue lamination and "polar" failure of gear teeth (Ref. 2-4). Electrolytic polishing of the ground spur and bevel gears ensures effective flanking and "bombination" ("bombinirovaniye") of gear teeth and improves the finish, which in turn raises the scar resistance of teeth. In the authors' experiments, electro-polishing raised the fatigue limit of case hardened specimens in the pulsating work cycle by 5-35%, depending on the preceding surface finish. There are 10 figures and 5 Soviet references.

89350

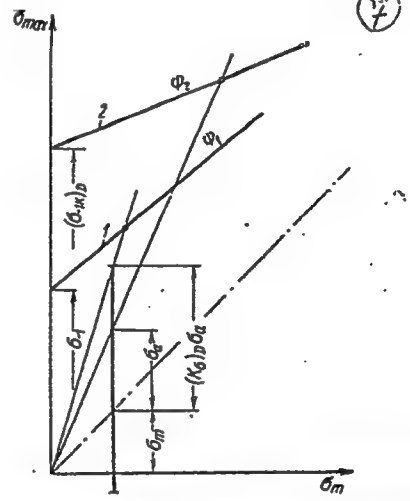
S/122/60/000/010/003/015
A161/A030

Fatigue Resistance of Thermo-Chemically Hardened Steel Parts in Work with Asymmetrical Load Cycles

Fig. 7 : Diagram of stress limit

1 - line for smooth laboratory specimens

2 - line for full-scale parts



Card 4/4

SHNEYERSON, L.M., inzh.; ALEKSEYEV, V.I., inzh.

Breakdown of gears caused by vibration. Vest.mash. 41 no.4:8-12 Ap '61. (MIRA 14:3)

(Gearing—Vibration)

S/514/61/000/005/007/014
I007/I207

AUTHOR: Yelenevskiy, D.S. and Shneyerson, L.M.

TITLE: Endurance limit under asymmetric cyclic loads, of steel components subjected to combined chemical-heat treatment hardening

SOURCE: Akademiya nauk SSSR. Komissiya po tekhnologii mashinostroyeniya. Seminar po kachestvu poverkhnosti. Trudy. no.5, 1961. Kachestvo poverkhnosti detaley mashin; metody i pribory, uprochneniye metallov, tekhnologiya mashinostroeniya, 156-162

TEXT: Results are reported of investigations carried out both on nonhardened and surface hardened test-specimens of cemented and nitrided alloy steels. These investigations were of particular importance since so far tests were carried out mainly under symmetrical loading. Cemented test-specimens were tested in bending and twisting, whereas nitrided specimens were tested in twisting only. As a results of tests, diagrams of limiting loads were plotted. Ample analysis is made of the test results and a formula for determining the safety margin of chemically coated components is derived. The influence of final maching of certain cemented components on their resistance to asymmetric loads, was investigated and it was found that shot-

Card1/2

S/514/61/000/005/007/014
I007/I207

Endurance limit under...

peening treatment improves endurance limit. A new process for electrolytic polishing of ground cylindric and bevel gears was developed and adopted in practice Abstractor's note: see reference la ... this paper. L.A. Shneyerson "Branch of VLITI, sb.1,no.k-59-332/5, 1959 . This process greatly improves the profile of the gears and hence their anti-seizing properties. Tests also showed electrolytic polishing to improve endurance limit of components subjected to pulsating cyclic loads, by 5-35% in dependence on the degree of previous machining. There are 4 figures and 1 table.

Card 2/2

SHNEYERSON, M.B.

14(5) PHASE I BOOK EXPLOITATION SOV/2820

Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki

Razvedochnaya i promyslovaya geofizika, vyp. 26 (Exploration and Industrial Geophysics, Nr 26) Moscow, Gostoptekhizdat, 1958. 87 p. (Series: Obmen proizvodstvennym opytom) 4,000 copies printed.

Ed.: M.K. Polshkov; Exec. Ed.: Ye.G. Pershina; Tech. Ed.: A.S. Polosina.

PURPOSE: This booklet is intended for exploration geophysicists and geologists.

COVERAGE: This collection of articles includes discussions of improvements in seismic exploration techniques and interpretations of data obtained by the refracted and reflected waves method of seismic exploration. Individual articles discuss: the construction of gravimetric maps, improvements in industrial borehole equipment, the standardization of radioactive electro-logging equipment, and methods for computing labor productivity in geophysical operations. A nomogram to facilitate the interpretation of data and conditions when using gamma logging of boreholes is described. References accompany each article.

Card 1/3

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

SHNEYERSON, M.B.

Evaluating the accuracy of the difference method of interpreting refraction correlation data under conditions prevailing in the Russian Platform. Razved. i prom. geofiz. no.27:3-14 '59.
(MIRA 12:7)
(Russian Platform--Seismometry)

SHNEYERSON, M.B.; GRODZENSKIY, V.A.

One way of interpreting data of the method of reflected waves with seismographs arranged in groups on large bases. Razved. i prom. geofiz. no.28:16-21 '59. (MIRA 13:1)
(Prospecting--Geophysical methods)

S/165/60/000/004/011/012
A104/A129

AUTHORS: Godin, Yu.N., Shneyerson, M.B., Yefimkina, S.S., Polshkov, M.K.

TITLE: Investigation of sloping structures of the Russian stage by the correlation method of refracted waves

PERIODICAL: Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk, no. 4, 1960, 81 - 84

TEXT: In spite of the satisfactory results achieved by the method of reflected waves, which helped to disclose a number of structures in the Russian stage, the problem of successful geophysical prospecting of sloping, i.e., potential oil and gas bearing structures has not been solved. In some areas available equipment and prospecting methods fail to ensure proper tracing of waves reflected from the boundary of Devon and carbonaceous stages. In view of this it has been decided to try the correlation method of refracted waves. After some attempts in 1945-46 and 1951 a new prospecting series was commenced by members of the Volgo-Ural'skaya (Tuymazinskaya) geophysical expedition of the Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki [VNIIGeofiziki] (All-Union Scientific Research Institute of Geophysical Prospecting Methods under the

Card 1/3

supervision of Yu.N. Godin. It was established that primary waves from Devon and carbonaceous boundaries have stable kinetic and dynamic properties, extensive tracing ranges and are easily distinguishable even in areas where the recording of reflected waves was thwarted by interferences. So far, prospecting has been carried out in the following areas of the Volga-Ural Region: Orenburgskaya, Saratovskaya and Kuybishevskaya Oblast' RSFSR, Bashkirskaya and Tatarskaya ASSR and northern areas of Kazakhskaya SSR. Standard ПСС-60 (PSS-60) and СС-30/60 (SS-30/60) installations were used. Seismic waves were recorded at mid-frequency filtration with a maximum response of 30 - 35 c/s and a filtering band of 15-25 c/s. Basic profiles were oriented crosswise to the assumed expansion of rocks. To overcome the difficulties in the interpretation of the hodographs of reflected waves, a special correction method was worked out (Ref. 4: G.I. Ovanesov Poiski struktur v BASSR [Structure prospecting in BASSR], Geologiya nefti, no. 10, 1958). The method is based on simultaneous use of direct and reversed hodographs of deep waves corresponding to the refracted strata of Devon and carbon deposits and line t_0 of the first refracted stratum. Mathematical analysis shows that this method enabled the location of structures with amplitudes of 50 m and above to be made. In some areas the study of refracted waves should be coupled with the recording of reflected waves and the method of individual seismic sounding is recommended

for this purpose. Conclusions: Prospecting by the correlation method of refracted waves carried out in the Bishidinskoye Upheaval, Serafimsko- Baltayevskiy terrace and Dimitrovskaya Structure was confirmed by drilling results. Exploration of virgin areas (Blizhneye Saratovskoye Zavol'zhe, Orenburgskaya Oblast') provided information on their tectonic formation and disclosed a number of anticlinal crests in the refracted strata. The described method opens new fields to seismic prospecting in south-eastern regions of the Russian stage. Satisfactory results were achieved in the TSSR and UzSSR. There are 2 figures and 6 Soviet-bloc references.

ASSOCIATION: VNIIGeofiziki

SUBMITTED: March 1, 1960

SHNEYERSON, M.B.

Interpreting hodographs of refracted waves in prospecting sloping platform structures. Prikl.geofiz. no.25:3-19 '60. (MIRA 13:6)
(Seismometr)

FEDYNSKIY, V.V., doktor fiziko-matem. nauk, red.; SHIROKOV, A.S., red.; KOVALEVA, A.A., red.; GRATSIANOVA, O.P., nauchn. red.; BORISOV, A.A., nauchn. red.; FEDYUK, V.I., nauchn. red.; KOTLYAREVSKIY, B.V., nauchn. red.; POMERANTSEVA, I.V., nauchn. red.; MOZZHENKO, A.N., nauchn. red.; LOZINSKAYA, A.M., nauchn. red.; SHNEYERSON, M.B., nauchn. red.; BOGDANOV, A.Sh., nauchn. red.; NIKITSKIY, V.Ye., nauchn. red.; KUDYMOV, B.Ya., nauchn. red.; PETROV, L.V., nauchn.red.; KOMAROV, .S.G, nauchn. red.; GORBUNOV, G.V., nauchn. red.; DUNCHENKO, I.A., nauchn. red.; FEL'DMAN, I.I., nauchn. red.; POMETUN, D.Ye., nauchn. red.; BEKMAN, Yu.K., ved. red.; VORONOVA, V.V., tekhn. red.

[Status and prospects for developing geophysical methods for mineral prospecting] Sostoianie i perspektivy razvitiia geofizicheskikh metodov poiskov i razvedki poleznykh iskopaemykh; materialy. Pod red. V.V. Fedynskogo. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1961. 623 p. (MIRA 14:11)

1. Nauchno-tekhnicheskaya geofizicheskaya konferentsiya, Moscow, 1959.
2. Ministerstvo geologii i okhrany nedr SSSR (for Fedynskiy, Petrov).
(Prospecting--Geophysical methods)

BORISOV, A.A.; BLOKHIN, P.A.; SHIROKOV, A.S.; SHNEYERSON, M.B.

Methods for the combined geophysical study of oil- and gas-bearing structures in platform provinces. Sov.geol. 5 no.11:15-35 N '62. (MIRA 15:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.
(Prospecting—Geophysical methods)

SHNEYERSON, M.B.; YEFIMKINA, S.S.

Some results of using the correlation refracted wave method in searching for dipping structures in the eastern Russian Platform. Prikl. geofiz. no.33:73-84 '62. (MIRA 15:10)
(Russian Platform--Seismic prospecting)

ZNAMENSKIY, V.V.; RYABINKIN, L.A.; PETROV, L.V.; VARTANOV, S.P.; GAGEL'GANTS, A.A.; KOTLYAREVSKIY, B.V.; LOZOVSKAYA, I.F.; LYAKHOVITSKIY, F.M.; MARTIN, N.I.; OSTROVSKIY, V.D.; PARIYSKAYA, G.N.; RIKHTER, V.I.; RUBO, V.V.; SLUTSKOVSKIY, A.I.; TARUTS, G.M.; TURCHANENKO, N.M.; SHMIDT, N.G.; SHNEYERSON, M.B.; GURVICH, I.I., red.; BORUSHKO, T.I., red.izd-va; GUROVA, O.A., tekhn. red.

[Instructions for seismic prospecting]Instruktsiia po seismorazvedke. Moskva, Gosgeoltekhizdat, 1962. 95 p. (MIRA 15:12)

1. Russia (1923- U.S.S.R.)Ministerstvo geologii i okhrany nedr. (Seismic prospecting)

MUSHIN, I.A.; SHEVCHENKO, L.B.; SHNEYERSON, M.B.

Characteristics of using the controlled directional sensitivity method in the eastern regions of the Russian Platform. Razved. geofiz no.2: 39-52 '64. (MIRA 18:5)

YEFIMKINA, S.S.; KOLENKOV, E.V.; SHNEYERSON, M.B.; SHTEYNBERG, G.G.

Methods of searching for structures of reef origin in the Orenburg part of the Ural Mountain region. Razved. geofiz. no.1:17-26 '64.(MIRA 18:7)

SHNEYERSON, M. B., Cand Tech Sci, "~~Exploring~~ Prospecting possibilities of the correlation method of refracted waves in the search for sloping structures in the eastern and southeastern regions of the Russian platform." Moscow, 1961. (Ministry of Geology and Mineral Conservation USSR. ~~VNII~~ All-Union Sci Res Inst of Geophysical Methods of ~~Exploration~~ Prospecting "VNIIGeofizika" of Acad Sci USSR. Inst of Physics of the Earth imeni Acad O. Yu. Shmidt). (KL-DV, 11-61, 224).

SHNEYERSON, M. S.

SHNEYERSON, M. S. --"On the Monogenicity of Quaternions and Hyper-complex Functions." Minsk, 1955. (Dissertation for the Degree of Candidate in Physicomathematical Sciences.)

So.: Knizhnaya Letopis', No 7, 1956.

SHNEYERSON M. S

1-FW

2

Sneerson, M.S. Functions monogenic in the sense of Moisil. Acad. R. P. Romîne. An. Romîno-Soviet. Ser. Mat.-Fiz. (3) 12 (1958), no. 3 (26), 40–49. (Romanian)

[The second paper is a translation of the first.]

Let $f=p+\tilde{i}a_1+\tilde{j}a_2+\tilde{k}a_3$ be a quaternion function of x, y, z, t in a domain $\Delta=\Delta_0\times l$, where Δ_0 is a domain in euclidean xyz space, l is a segment $a<t<b$, and p, a_1, a_2, a_3 are complex-valued functions with continuous second-order partial derivatives with respect to x, y, z, t in Δ. G. C. Moisil [Bull. Sci. Math. 55 (1931), 168–174] has defined f to be monogenic in Δ provided that, in this domain, f satisfies $Df=0$, where

$$D=\tilde{i}\frac{\partial}{\partial x}+\tilde{j}\frac{\partial}{\partial y}+\tilde{k}\frac{\partial}{\partial z}+\frac{\partial}{\partial t}.$$

In the present paper it is assumed, further, that Δ is simply connected in euclidean $xyzt$ space and that $a_1^2+a_2^2+a_3^2\neq 0$ in Δ. With $\vec{a}=\{a_1, a_2, a_3\}$, $\vec{\varepsilon}=\vec{a}/a=\{\varepsilon_1, \varepsilon_2, \varepsilon_3\}$, and $\tilde{\varepsilon}=\tilde{i}\varepsilon_1+\tilde{j}\varepsilon_2+\tilde{k}\varepsilon_3$, f can be written as $f=p+a\tilde{\varepsilon}$ and the condition for Moisil monogenicity in Δ as $D(p+a\tilde{\varepsilon})=0$. Since $Dp=-(Da)\tilde{\varepsilon}$ and $Da=(Dp)\tilde{\varepsilon}$, the author defines the function a to be conjugate to the function p with respect to the vector $\vec{\varepsilon}$.

A subclass of Moisil monogenic functions is now defined as follows. Writing f in matrix form, the author defines an analytic function $A(f)$ to be a function element

Succession, U. S.

$\sum_{k=0}^{\infty} b_k(f-f_0)^k$ and all its analytic continuations, where the b_k are complex constants. Now f is said to be monogenic and functionally invariant in Δ if every $A(f)$, analytic in Δ, is Moisil-monogenic in Δ.

It is shown that $f=p+a\tilde{\varepsilon}$ is a member of the subclass, that is, that f is monogenic and functionally invariant in Δ, if and only if the conditions $D(p+a\tilde{\varepsilon})=0$ and $D\tilde{\varepsilon}=0$ are satisfied in Δ.

An application is made to obtain a class of solutions of Maxwell's equation.

E. F. Beckenbach (Los Angeles, Calif.)

Sent

SHNEYERSON, M.S. (Ivanova)

Moisil's monogenic functions. Mat. sbor. 44 no.1:113-122 Ja '58.
(MIRA 11:2)
(Functions of complex variables)

16(1)

AUTHOR: Shneyerson, M.S.

SOV/140-59-4-26/26

TITLE: A Multidimensional Analogue of the Integral of Cauchy Type

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 4, pp 232 - 239 (USSR)

ABSTRACT: The author generalizes the results of the well-known investigation [Ref 1] of A.V. Bitsadze to $n>3$ dimensions. Let a matrix $\|a_{ik}\|$ have the properties $a_{ii} = p$, $a_{ik} = -a_{ki}$ $(i \neq k ; i,k = 1,2,\ldots,n)$; it is assumed to possess continuous derivatives of second order with respect to all variables $x_1,\ldots,x_n$ in a domain D; let $\sum_{i=1}^{n} \frac{\partial a_{ik}}{\partial x_i} = 0$, $k = 1,2,\ldots,n$. Such a matrix is called monogeneous. Theorem: If $\|a_{ik}\|$ is monogeneous in D, then $a_{ii} = p$ is harmonic in D. Theorem: Let D be finite, $n>2$, the boundary S of D is assumed to be a Lyapunov hypersurface, the elements of the

Card 1/3

A Multidimensional Analogue of the Integral of Cauchy Type

SOV/140-59-4-26/26

monogeneous matrix $\|a_{ik}\|$ are assumed to be continuous point functions. Then it is

$$(3)\quad \int_S \sum_i \sum_k a_{i.} \frac{\partial}{\partial x_k}\left(\frac{1}{r^{n-2}}\right) t_i d_s = \begin{cases} \omega p(M) & , \ M \in D \\ 0 & , \ M \in D' \end{cases}$$

where D' is the exterior domain with respect to S, $t(t_1, t_2, .., t_n)$ vector of the exterior normal of S in $N(x'_1, x'_2, ..., x'_n)$, N point of S , $r \equiv r(M,N)$ the distance between M and N , $\omega = 2\pi^{n/2} : \Gamma\left(\frac{n}{2}\right)$.

Then the author introduces monogeneous hypercomplex matrices and a monogeneous vector, with the aid of which (3) can be written in a form analogous to the Cauchy formula.

Card 2/3

A Multidimensional Analogue of the Integral of Cauchy Type SOV/140-59-4-26/26

There is 1 Soviet reference.

ASSOCIATION: Ivanovskiy energeticheskiy institut imeni V.I. Lenina (Ivanovo Power Engineering Institute imeni V.I. Lenin)

SUBMITTED: April 30, 1958

16(1)

AUTHOR: Shneyerson, M.S. SOV/42-14-4-21/27

TITLE: On a Certain Analogue of the Integral of Cauchy Type

PERIODICAL: Uspekhi matematicheskikh nauk, 1959,Vol 14,Nr 4,pp 217-222(USSR)

ABSTRACT:

The matrix $(p;\mathfrak{a}) = \begin{pmatrix} p & a_z & -a_y \\ -a_z & p & a_x \\ a_y & -a_x & p \end{pmatrix}$, where p is a scalar and $\mathfrak{a} \equiv (a_x, a_y, a_z)$ is a vector, is called monogenic if p and are unique functions of the point with continuous partial derivatives up to the first or second order, and grad pF rot $\mathfrak{a} = 0$. If besides div $\mathfrak{a} = 0$, then we have strongly monogenic matrices. The author transfers the integral theorem and integral formula of Cauchy to monogenic matrices, he defines analytic matrices $(p;\mathfrak{a})$, and he generalizes results of Pompeiu and V.S.Fedorov. There are 3 references, 2 of which are Soviet, and 1 Italian.

SUBMITTED: June 19, 1957

Card 1/1

~~16(1)~~ 16.3500

AUTHOR: Shneyerson, M.S. (Ivanovo) SOV/39-49-4-6/6

TITLE: Pseudoconjugate Quaternion Functions and Their Connection With the Equations of Maxwell and Dirac

PERIODICAL: Matematicheskiy sbornik,1959,Vol 49,Nr 4,pp 485-492 (USSR)

ABSTRACT: Let Δ be a domain of the real $E(x,y,z,t)$ and M_Δ the set of all quaternion functions $f = p + a_x \tilde{i} + a_y \tilde{j} + a_z \tilde{k}$, where p, a_x, a_y, a_z are complex-valued functions of x,y,z,t which are unique and continuously differentiable in Δ, whereby it is $Df = 0$, where $D = \frac{\partial}{\partial t} + \tilde{i}\frac{\partial}{\partial x} + \tilde{j}\frac{\partial}{\partial y} + \tilde{k}\frac{\partial}{\partial z}$. Let $\bar{\varepsilon} = (\varepsilon_x, \varepsilon_y, \varepsilon_z)$. Continuously differentiable quaternion functions P and A of x,y,z,t are called pseudoconjugate in Δ with respect to $\bar{\varepsilon}$, if it is in Δ :

(1) $DP + (DA)\,\bar{\varepsilon} = \gamma(P - A\,\bar{\varepsilon})$ $(D\,\bar{\varepsilon} = 0,\ \bar{\varepsilon}^2 = -1)$

Card 1/3

where γ is a given continuously differentiable quaternion function in Δ. If $\gamma \equiv 0$, then P and A are called conjugate in Δ with respect to $\bar{\varepsilon}$. ϕ and ζ denote given linear forms of x,y,z,t with complex coefficients, $\zeta \neq C\phi$, C = const.

Theorem 1: Let $\bar{\varepsilon}$ be a function of ϕ in Δ, $\gamma = D\varphi (\gamma \neq 0)$, φ continuously differentiable function of ζ in Δ. In order that $P = e^{\varphi} u$, $A = e^{-\varphi} v$, where u and v are continuously differentiable quaternion functions of ϕ in Δ, be solutions of (1), it is necessary and sufficient that $u \in M_{\Delta}$, $v \in M_{\Delta}$.

Theorem 2: $P = e^{\varphi_1} u$, $A = e^{-\varphi_1} v$, where φ_1 is a fixed continuously differentiable complex function of x,y,z,t and u and v are arbitrary functions from M_{Δ}, are particular solutions of (1) in Δ for arbitrary $\bar{\varepsilon}$, where $\gamma = D\varphi_1$.

Pseudoconjugate Quaternion Functions and Their Connection With the Equations of Maxwell and Dirac

SOV/39-49-4-6/6

If in (1) it is put $\gamma \equiv 0$ and if P and A are complex functions in Δ, then

(4) $D(P + A\bar{\varepsilon}) = 0$, $D\bar{\varepsilon} = 0$, $\varepsilon^2 = -1$

is obtained from (1). If D is replaced by

$$D' = \frac{\partial}{\partial(it)} + \tilde{i}\frac{\partial}{\partial x} + \tilde{j}\frac{\partial}{\partial y} + \tilde{k}\frac{\partial}{\partial z} \quad , \text{ then } D'(P + A\bar{\varepsilon}) = 0$$

is a Dirac equation for particles of mass zero [Ref 6]. The above theorems remain. Two further theorems deal with the connection between Dirac equations with nonvanishing mass and the pseudoconjugate functions.

The author mentions V.S. Fedorov, V.I. Smirnov, D. Ivanenko and K. Nikol'skiy.

There are 6 references, 3 of which are Soviet, 1 French, 1 American, and 1 German.

SUBMITTED: May 27, 1957

Card 3/3

SHNEYERSON, M.S.

Inseperable transformations of the gradient field of a harmonic function. Izv. vys. ucheb. zav.; mat. no.2:168-177 '61. (MIRA 14:3)

1. Ivanovskiy energeticheskiy institut.
(Harmonic functions)

SHNEYERSON, M.S. (Ivanovo)

One class of solutions to a system of Moisil-Dirac differential equations. Mat. sbor. 55 no.4:407-410 D '61. (MIRA 15:3)
(Differential equations)

SHNEYERSON, M.S. (Ivanovo)

Generalized monogenic functions of G. Moisil and generalized conjugate functions of V.S. Fedorov. Ukr. mat. zhur. 14 no.4:446-452 '62. (MIRA 15:12)

(Functions)

S/169/62/000/011/011/077
D228/D307

AUTHOR: Shneyerson, M.V.

TITLE: Determining the elastic wave propagation velocities from difference hodographs of reflected waves

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1962, 46, abstract 11A278 (In collection: Prikl. geofizika, no. 31, M., 1961, 109-115)

TEXT: A method is proposed for determining elastic wave velocities from differences in the arrival times of two reflected waves at the same point of the profile. Using the difference in the observed times allows the influence of surface distorting factors to be excluded, thus decreasing the error of calculation. The determination of the thickness of the layer between the two reflecting boundaries, and of the velocity of elastic waves in it, from the difference hodograph is accomplished graphically by using data on the depth of the first boundary and the average velocity in the medium covering it. The accuracy of the suggested method is esti-

Card 1/2

Determining the elastic wave ...

mated, and an example is cited for its use in interpreting reflection survey data for one of the Russian Platform's areas.
[Abstracter's note: Complete translation]

Card 2/2

VIL'CHEK, M.; KOLESNIKOVA, A.; SHNEYERSON, R.

Use of lambs as an additional source of meat. Mias. ind. SSSR 33 no.4:27-28 '62. (MIRA 17:2)

1. Tashkentskiy opornyy punkt Vsesoyuznogo nauchno-issledovatel'skogo instituta myasnoy promyshlennosti.

L 43189-65 EWT(1)/EWA(h) Peb GG S/0119/65/000/003/0030/0031
ACCESSION NR: AP5007789

21
7
B

AUTHOR: Shneyerson, R. Kh. (Engineer)

TITLE: A pulse count relay for programmed algebraic counting

25

SOURCE: Priborostroyeniye, no. 3, 1965, 30-31

TOPIC TAGS: algebraic counter, reversible step relay, pulse counter, automatic control

ABSTRACT: The basic disadvantages of Soviet step relays for programmed counting are given: 1) algebraic counting is impossible on the Ye-526 and Ye-531 relays; 2) low counting rate (switching frequency); 3) the Ye-531 relay and the SID-1 counter have no provision for controlling automatic machines; 4) the BV-977 relay is difficult to manufacture and is not reliable when there are variations in the line voltage. The Interchangeability Office of the State Committee on Machine Building under the State Planning Commission SSSR has developed an algebraic pulse count relay BV-3034 which eliminates these disadvantages. An RShI reversible step switch performs the algebraic addition. The parts used in the device are Soviet mass-produced components and the completed instrument needs no special adjustment.

Card 1/2

L43189-65
ACCESSION NR: AP5007789

The counter operates reliably on a 127 v line voltage with variations of +10-30%. The maximum count rate is 20 signals per second, which is 5 times the count rate of the Ye-531 and the Ye-526. Triggering pulse duration is not less than 25 m/sec [sic]. The BV-3034 may be used in various automatic testing and sorting machines and in other applications where signals must be counted algebraically and the result used for sending control signals. The principles of operation for the counter are given. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

BJB

Card 2/2

SHNEYERSON, R.Kh., inzh.

Computer-pulse relay for an algebraic computation according to a given program. Priborostroenie no.3:30-31 Mr '65.
(MIRA 18:4)

TITOVA, N.A. [translator]; SHNEYERSON, S.B. [translator]; YAKOVENKO, M.Ye., red.; SMIRNOVA, N.I., tekhn.red.

[Pegmatites of Central Africa; a collection of articles] Pegmatity TSentral'noi Afriki; sbornik statei. Predisl. A.I. Ginzburga. Moskva, Izd-vo inostr.lit-ry, 1958. 285 p. (MIRA 12:5)
[Translated from the French]
(Africa, Central--Pegmatites)